

## Provisions Related to Mechanical Equipment and Noise

### **A. Amend the Zoning Text of the City of Cambridge in Section 19.20 – Project Review Special Permit as follows.** (Additions to the text are noted in **Bold**. Deletions are indicated with a ~~striketrough~~.)

**19.24 - Application Procedures.** An application for the Project Review Special Permit shall be made to the Planning Board. The Application shall consist of the following materials:

(1) *Planning Board Special Permit Application Form.* The application shall include all required plans and narrative statements. The site plan and other plans, **elevations and drawings** shall clearly show: **(1) the access and egress points for all forms of travel to the site, (2) and shall show the location of adjacent bus and transit stops, (3) the schematic design of proposed mechanical equipment, and (4) the architectural screening treatment proposed for that mechanical equipment. The proponent shall provide perspectives of the proposed development, including mechanical equipment, from all critical viewpoints.**

(2) *Traffic Study.* Where the use thresholds established in Table 1 are met or exceeded, the application shall include a traffic study with a geographic and functional scope determined by the Traffic, Parking and Transportation Department (TPTD) to be appropriate to the location of the project. In general, the study shall review intersections where the project will have significant and measurable impact. The TPTD shall issue a certification to the applicant within twenty-one (21) days of its submission that the traffic study has been done in a complete and reliable manner. Where that certification is denied, the applicant may revise the information in the traffic study and resubmit it; a certification of the revised study shall be issued or denied by the TPTD within fourteen (14) days of the resubmission of material.

Based on guidelines established by TPTD, the traffic study shall include a narrative discussion of (a) the nature and quantity of vehicles traveling to the site including, in addition to passenger cars, service, delivery and other commercial vehicles, (b) the likely impact of such vehicular traffic on abutters, abutting streets and nearby residential streets, including on-street parking behavior, (c) the physical nature of pedestrian and bicycle access to the site and the quantity of movements anticipated for each, and (d) an analysis of the crash history at intersections within the study area. The study shall identify parking and transportation demand management measures and other mitigation measures proposed to ameliorate any adverse traffic impacts identified in the study.

(3) *Urban Design Objectives Narrative.* The application shall include a narrative description of how the proposal addresses each of the seven Urban Design Objectives set forth in Section 19.30. In addition the applicant shall comment specifically on the following: (a) the design and location of **proposed mechanical equipment, including HVAC equipment, as well as a strategy for possible future expansion, if relevant,** (b) location and operation of trash storage and removal systems, (c) location

and operation of loading facilities, (d) measures taken to minimize the negative visual and noise impacts of such facilities on abutters, and (e) the provision in the building and site design to accommodate pedestrian, bicycle and transit access.

(4) *Sewer Service Infrastructure Narrative.* The application shall include a report by the applicant detailing the anticipated impact of the project on the city's sanitary, stormwater, and combined sewer infrastructure. It shall indicate the adequacy of the preliminary site plan in meeting city, state, and federal requirements or established standards for implementation of best management practices for stormwater management and the likely improvements to infrastructure necessary to accommodate the impacts of the proposed project. Where such determinations cannot be made at the time of application, the report shall indicate what investigations must be undertaken by the applicant to make such determination, their anticipated costs, and the schedule for their completion. The applicant shall provide certification that this report has been submitted to the Department of Public Works.

(5) *Water Service Infrastructure Narrative.* The application shall include a report by the applicant detailing the anticipated impact of the project on the city's water delivery infrastructure and supply. It shall indicate the likely improvements to infrastructure necessary to accommodate the identified impacts. Where such determinations cannot be made at the time of application, the report shall indicate what investigations must be undertaken by the applicant to make such determination, their anticipated costs, and the schedule for their completion. The applicant shall provide certification that this report has been submitted to the Water Department

**(6) *Noise Mitigation Narrative.* The application shall include a report detailing how the project shall conform to the requirements of the Cambridge Noise Ordinance. The report shall indicate the approaches to be adopted by the applicant in minimizing the impact of noise from the project on neighbors. When a project consists entirely or in part of residential uses located in a mixed-use or commercial or industrial area, the narrative shall describe how building materials, building design, building orientation, and site layout are being used to reduce the transmission of noise to the residences from the surrounding environment.**

**19.25 - Review Criteria.** In granting a special permit under this Section 19.20 the Planning Board shall make the following findings.

**19.25.1 - Traffic Impact Findings.** Where a Traffic Study is required as set forth in Section 19.24 (3) above the Planning Board shall grant the special permit only if it finds that the project will have no substantial adverse impact on city traffic within the study area as analyzed in the Traffic Study. Substantial adverse impact on city traffic shall be measured by reference to the traffic impact indicators set forth in Section 19.25.11 below.

In areas where the Planning Board determines that area-specific traffic guidelines have been established in the Ordinance, the Board recognizes written agreements between project proponents and the City dealing with transportation mitigation strategies.

**19.25.11 - Traffic Impact Indicators.** In determining whether a proposal has substantial adverse impacts on city traffic the Planning Board shall apply the following indicators. When one or more of the indicators is exceeded, it will be indicative of potentially substantial adverse impact on city traffic. In making its findings, however, the Planning Board shall consider the mitigation efforts proposed, their anticipated effectiveness, and other supplemental information that identifies circumstances or actions that will result in a reduction in adverse traffic impacts. Such efforts and actions may include, but are not limited to, transportation demand management plans; roadway, bicycle and pedestrian facilities improvements; measures to reduce traffic on residential streets; and measures undertaken to improve safety for pedestrians and vehicles, particularly at intersections identified in the Traffic Study as having a history of high crash rates.

The indicators are: (1) Project vehicle trip generation weekdays and weekends for a twenty-four hour period and A. M. and P.M. peak vehicle trips generated; (2) Change in level of service at identified signalized intersections; (3) Increased volume of trips on residential streets; (4) Increase of length of vehicle queues at identified signalized intersections; and (5) Lack of sufficient pedestrian and bicycle facilities. The precise numerical values that will be deemed to indicate potentially substantial adverse impact for each of these indicators shall be adopted from time to time by the Planning Board in consultation with the TPTD, published and made available to all applicants.

**19.25.2 - Urban Design Findings.** The Planning Board shall grant the special permit only if it finds that the project is consistent with the urban design objectives of the city as set forth in Section 19.30. In making that determination the Board may be guided by or make reference to urban design guidelines or planning reports that may have been developed for specific areas of the city and shall apply the standards herein contained in a reasonable manner to nonprofit religious and educational organizations in light of the special circumstances applicable to nonprofit religious and educational activities.

**B. Amend the Zoning Text of the City of Cambridge in Section 19.30 – Project Review Special Permit as follows.** (Additions to the text are noted in **Bold**. Deletions are indicated with a ~~strike through~~.)

**19.30 - Citywide Urban Design Objectives**

The following urban design objectives are intended to provide guidance to property owners and the general public as to the city's policies with regard to the form and character desirable for new development in the city. It is understood that application of these principles can vary with the context of specific building proposals in ways that, nevertheless, fully respect the policies' intent. It is intended that proponents of projects, and city staff, the Planning Board and the general public, where public review or approval is required, should be open to creative variations from the detailed provisions presented in this Section as long as the core values expressed are being served. A project need not meet all the objectives of this Section 19.30 where this Section serves as the basis for issuance of a special permit. Rather the permit granting authority shall find that on balance the objectives of the city are being served. Nor shall

a project subject to special permit review be required to conform to the Required Building and Site Plan Requirements set forth in Section 11.50.

Further indicators of conformance with these policy objectives shall be found in planning documents and plans developed for specific areas of the city or the city as a whole, to the extent that they are not inconsistent with the objectives set forth in this Section 19.30. These documents include the *Harvard Square Development Guidelines*, the *Central Square Action Plan*, the *Central Square Development Guidelines*, the *North Massachusetts Avenue Urban Design Guidelines Handbook*, the *University Park at MIT Urban Design Guidelines*, the *North Point Policy Plan and Design Guidelines*, the *Cambridge Institutional Growth Management Plan*, the *East Cambridge Riverfront Plan*, the *Eastern Cambridge Plan*, the *Eastern Cambridge Design Guidelines*, the *Alewife Revitalization, Alewife Urban Design Study Phase II* and its Draft update of 1991, and *Toward a Sustainable Future: Cambridge Growth Policy Document*.

**19.33** *The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include:*

(1) ~~Rooftop~~ **Mechanical equipment that is carefully designed, well organized or visually screened from its surroundings and is acoustically buffered from neighbors.**

Consideration is given to the size, complexity and appearance of the equipment, its proximity to residential areas, and its impact on the existing streetscape and skyline. The extent to which screening can bring order, lessen negative visual impacts, and enhance the overall appearance of the equipment should be taken into account. **More specifically:**

**(a) Reasonable attempts have been made to avoid exposing rooftop mechanical equipment to public view from city streets. Among the techniques that might be considered are the inclusion of screens or a parapet around the roof of the building to shield low ducts and other equipment on the roof from view.**

**(b) Treatment of the mechanical equipment (including design and massing of screening devices as well as exposed mechanical elements) that relates well to the overall design, massing, scale and character of the building.**

**(c) Placement of mechanical equipment at locations on the site other than on the rooftop (such as in the basement), which reduces the bulk of elements located on the roof; however, at-grade locations external to the building should not be viewed as desirable alternatives.**

**(d) Tall elements, such as chimneys and air exhaust stacks, which are typically carried above screening devices for functional reasons, are carefully designed as features of the building, thus creating interest on the skyline.**

**(e) All aspects of the mechanical equipment have been designed with attention to their visual impact on adjacent areas, particularly with regard to residential neighborhoods and views and vistas.**

(2) Trash that is handled to avoid impacts (noise, odor, and visual quality) on neighbors, e.g. the use of trash compactors or containment of all trash storage and handling within a building is encouraged.

(3) Loading docks that are located and designed to minimize impacts (visual and operational) on neighbors.

(4) Stormwater Best Management Practices and other measures to minimize runoff and improve water quality are implemented.

(5) Landscaped areas and required Green Area Open Space, in addition to serving as visual amenities, are employed to reduce the rate and volume of stormwater runoff compared to pre-development conditions.

(6) The structure is designed and sited to minimize shadow impacts on neighboring lots, especially shadows that would have a significant impact on the use and enjoyment of adjacent open space.

(7) Changes in grade across the lot are designed in ways that minimize the need for structural retaining walls close to property lines.

(8) Building scale and wall treatment, including the provision of windows, are sensitive to existing residential uses on adjacent lots.

**19.34** *Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system. Indicators include:*

(1) The building and site design are designed to make use of water-conserving plumbing and minimize the amount of stormwater run-off through the use of best management practices for stormwater management.

(2) The capacity and condition of drinking water and wastewater infrastructure systems are shown to be adequate, or the steps necessary to bring them up to an acceptable level are identified.

(3) Buildings are designed to use natural resources and energy resources efficiently in construction, maintenance, and long-term operation of the building, **including supporting mechanical systems that reduce the need for mechanical equipment generally and its location on the roof of a building specifically.** The buildings are sited on the lot to allow construction on adjacent lots to do the same. Compliance with Leadership in Energy and Environmental Design (LEED) certification standards and other evolving environmental efficiency standards is encouraged.

**C. Amend the Zoning Text of the City of Cambridge in Section 5.23 – Height Exceptions as follows.** (Additions to the text are noted in **Bold**. Deletions are indicated with a ~~strike through~~.)

**5.20 STANDARDS FOR DIMENSIONAL REGULATIONS**

**5.23 Height Exceptions.** The provisions of this Ordinance governing the height of buildings and structures in all districts shall **generally** not apply to **(a)** chimneys, water towers, air conditioning equipment, elevator bulkheads, skylights, ventilators and other necessary features appurtenant to buildings which are usually carried above roofs and are not used for human occupancy, ~~nor~~ **(b)** to domes, towers, or spires above buildings if such features are not used for human occupancy and occupy less than ten (10) percent of the lot area, ~~nor~~ **and (c)** to wireless or broadcasting towers and other like unenclosed structures which occupy less than ten (10) percent of the lot area.

**However, building elements enumerated in (a) above shall be limited in height where they are placed on a building located in a non-residential district, which district abuts a Residence A-1, A-2, B, C, C-1, C-1A, C-2, C-2A or C-2B district. In these instances the following height limitations shall apply to those building elements:**

- 1. The elements must be below one or more forty-five (45) degree bulk control planes. Each bulk control plane shall begin, in the vertical dimension, at the maximum height limit permitted in the non-residential zoning district. In the horizontal dimension, the plane shall begin at the residential/non-residential zoning district line; however, where that line lies within a street, the plane shall begin at the front lot line, located nearest the zoning district line, of the lot on which the building is sited. Thereafter the bulk control plane shall rise from its beginning over the non-residential zoning district. (See illustrative Figure 5.23?)**
- 2. The limitations in Paragraph 1 above may be waived by special permit from the Planning Board upon a finding by the Board that the additional height is necessary. In making that determination the Planning Board shall consider the special and unique requirements of the use that the elements are serving, any special constraints imposed by the site upon which the building is located, the nature and character of development in the adjacent residential district, and the extent to which successful efforts are made to minimize the visual and acoustical impact of the elements on neighbors.**

**D. Amend the Zoning Text of the City of Cambridge in Sections 5.31, 5.32, 5.33, 5.34, and 5.35 – District Dimensional Regulations as follows.** (Additions to the text are noted in **Bold**. Deletions are indicated with a ~~striketrough~~.)

## **5.30 - DISTRICT DIMENSIONAL REGULATIONS**

### **5.31 Residential Districts**

1. The following dimensional requirements, set forth in Table 5-1 and modified elsewhere in this Ordinance, shall be applicable to development in residential districts:

***[Note: The height limitations set forth in the following table are subject to exceptions for mechanical equipment and certain architectural features as outlined in Section 5.23. Reference should be made to Section 5.23 for a complete understanding of the actual height of building elements permitted in the Zoning Ordinance.]***

### **5.32 Office Districts**

1. The following dimensional requirements, set forth in Table 5-2 and modified elsewhere in this Ordinance, shall be applicable to development in Office districts:

***[Note: The height limitations set forth in the following table are subject to exceptions for mechanical equipment and certain architectural features as outlined in Section 5.23. Reference should be made to Section 5.23 for a complete understanding of the actual height of building elements permitted in the Zoning Ordinance.]***

### **5.33 Business Districts**

1. The following dimensional requirement, set forth in Table 5-3 and modified elsewhere in this Ordinance, shall be applicable to development in business districts:

***[Note: The height limitations set forth in the following table are subject to exceptions for mechanical equipment and certain architectural features as outlined in Section 5.23. Reference should be made to Section 5.23 for a complete understanding of the actual height of building elements permitted in the Zoning Ordinance.]***

### **5.34 Industrial Districts**

1. The following dimensional requirements, set forth in Table 5-4 and modified elsewhere in this Ordinance, shall be applicable to development in office districts:

***[Note: The height limitations set forth in the following table are subject to exceptions for mechanical equipment and certain architectural features as outlined in Section 5.23. Reference should be made to Section***

***5.23 for a complete understanding of the actual height of building elements permitted in the Zoning Ordinance.]***

**5.35** *Open Space Districts*

1. The following dimensional requirements, set forth in Table 5-5, shall be applicable to development in an open space district:

***[Note: The height limitations set forth in the following table are subject to exceptions for mechanical equipment and certain architectural features as outlined in Section 5.23. Reference should be made to Section 5.23 for a complete understanding of the actual height of building elements permitted in the Zoning Ordinance.]***